

Patent Claims

1. An electrical connecting device having the following features:

- a) a current or data transmitter device which can be connected to at least one current-transmitting or pulse-transmitting source is arranged in a transmitter housing and has contact elements,
- b) a current receiving or data receiving device, which can be electrically connected to a load or a consumer is arranged in a receiver housing and has contact elements,
- c) at least the contact elements in one of the two devices (current or data transmitter device, or current receiving or data receiving device) are arranged in an at least partially elastic wall of the associated housing,
- d) a current, pulse or data transfer can be produced between the contact elements (which are in the form of flat contacts with touching surfaces) of the current or data transmitter device and the current receiving or data receiving device by connection of the current or data transmitter device to the current receiving or data receiving device,

characterized in that

- e) a large number of contact elements (3 or 9, respectively) of at least one of the two devices (1 or 5, respectively) are arranged alongside one another in a configuration (10) in the form of an array,
- f) the contact elements (3) which are inserted into the configuration in the form of an array are elastically mounted, and
- g) the configuration in the form of an array rests on a pressing link (16) on the side facing away from the contact elements (3).

2. The electrical connecting device as claimed in claim 1, characterized in that the pressing link (16) is elastic.

3. The electrical connecting device as claimed in claim 1, characterized in that the contact elements (3) are at least partially embedded in an elastic sheath (14).

4. The electrical connecting device as claimed in claim 1, characterized in that the current or data transmitter device (1) and the current receiving or data receiving device (5) are each provided with magnet bodies (4, 7), with the magnet bodies (7) for the current receiving or data receiving device (5) being arranged opposite the magnet bodies (4) of the current transmitter or data transmitter device (1).

5. The electrical connecting device as claimed in claim 1, characterized in that the configuration in the form of an array is formed by a frame (10).

6. The electrical connecting device as claimed in claim 5, characterized in that the frame (10) which is in the form of an array has an at least approximately meandering shape which runs with right-angled turns.

7. The electrical connecting device as claimed in claim 3, characterized in that the elastic sheath (14) is formed by molding.

8. The electrical connecting device as claimed in claim 2,

characterized in that

the elastic pressing link (16) is composed of hard rubber or a substance which is similar to hard rubber.

9. The electrical connecting device as claimed in one of claims 1 to 8,

characterized in that

two contact elements (3) which are located alongside one another are connected to one another by means of a conductive link part (21) in order to enlarge the flat contact.

10. The electrical connecting device as claimed in one of claims 1 to 9,

characterized in that

the magnet bodies (4) are in the form of magnets (7) which are reinforced by iron casings (8).

11. The electrical connecting device as claimed in one of claims 4 to 10,

characterized in that

the magnet bodies (4) are in the form of magnets, and are each coded by splitting within a magnet into two or more magnet parts of different polarity.

12. The electrical connecting device as claimed in one of claims 4 to 11,

characterized in that

the magnet bodies (4) which can be arranged opposite one another in the current or data transmitter device (1) and in the current receiving or data receiving device (5) are passed through guides (19, 20) in the transmitter housing (2) and in the receiver housing (6) for connection.

13. The electrical connecting device as claimed in claim 11,

characterized in that
the guides (19, 20) are conical.

14. The electrical connecting device as claimed in claim 1,
characterized in that
the current or data transmitter device (1) can be connected to
the current receiving or data receiving device (5) by
connecting mechanical connecting elements to one another.